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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/987,842	11/16/2001	Masahiko Matsuura	44318-049	7567
7590 03/09/2004				
MCDERMOTT, WILL, EMERY		EXAMINER		
600 13th Street, N.W.		TRAN, HENRY N		
WASHINGTON, DC 20005-3096				
		ART UNIT	PAPER NUMBER	
		2674		

DATE MAILED: 03/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/987,842

Applicant(s)

MATSUURA ET AL.

Examiner

HENRY N TRAN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

This Application has been examined. The original claims 1-15 are pending. The examination results are as following.

Information Disclosure Statement

1. The examiner has considered the information disclosure statement (IDS) received 02/11/02 (Paper No. 3) (see the attached form PTO-1449).

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-3, 5-7,9-11 and 13-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "ohm/square" in each of the independent claims 1 and 2 is a relative term which renders the claim indefinite. The term " ohm/square " is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Said term could be definite by identifying ohm/square μm or ohm.cm, etc.

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For the purpose of this Office action, the examiner assumes that the term "ohm/square" is changed to "ohm.cm". Applicant is required to affirm or reverse this assumption in response to this Office action.

Applicants are required to affirm or reverse this assumption in response to this Office action.

Applicants are also required to amend the specification to have a clear support or antecedent basis for the new term appearing in the claims.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamaguchi et al (U.S. Patent No. 6,407,763, hereinafter "Yamaguchi") in view of Shigehiro et al (U.S. Patent No. 6,411,316, hereinafter "Shigehiro").

6. Regarding to claims 1-3, Yamaguchi teaches an image display medium 10 comprising two substrates 14 and 16 opposed to each other with a gap there between; cells 37, each having a peripheral defined by partition walls 39, two kinds of frictionally chargeable particles 18 and 20 having different chargeable polarities and different optical reflection densities are contained in the dry developer defined by cells 37; an electrostatic latent image-forming portion 22 for forming an electrostatic latent image corresponding to the image to be formed on the substrate

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for driving particles in an electric field is provided for displaying an image; see figures 1, 15, 17, and ; col. 13, lines 61-64; col. 32, lines 46-49; col. 34, lines 40). However, Yamaguchi does not teach the surface resistivity of the surfaces facing the developing particles are at least 1×10^{12} ohm.cm or in the range of from 1×10^6 ohm.cm to 1×10^{12} ohm.cm as specifically defined in claims 1-3. Shigehiro teaches an image display medium 10 comprising two substrates 14 and 16 opposed to each other with a gap there between for containing conductive particles 18 and 20; wherein the electric resistance of material substrates in the range of from 1×10^4 ohm.cm to 1×10^{13} ohm.cm; see figure 9; and col. 9, lines 51-61; col. 10, lines 31-60. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Shigehiro discussed above in the Yamaguchi device for producing the claimed invention; because this would provide an improved display medium capable of easily transferring and displaying high contrast and high sharpness image, preventing damage, and increasing the life of repetitive rewriting display medium; see Shigehiro, col. 10, lines 60-63. By this rationale, claims 1-3 are rejected.

7. Regarding to claims 4-15, Yamaguchi teaches generally all, except for the range of the surface average median roughness R_a of $0.2 \mu\text{m}$ to $0.5 \mu\text{m}$ or of $0.2 \mu\text{m}$ to $0.7 \mu\text{m}$. Although, the criticalities of this claimed feature have a clear support in the specification. However, applicants fail to identify the surface roughness available in the prior art so that the difference between the claimed invention and the prior art is clear so that one of ordinary skill in the art would be reasonably apprised of the scope of the invention. Moreover, the two display substrates 14 and 16 as taught by Yamaguchi may be plastic substrates, or glass substrates, which have a very

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small roughness, which is well known in the art. Lacking of a description of the difference between the claimed roughness and the prior art as discussed above, Yamaguchi substrates are read on the claimed roughness because very small roughness or very smooth glass substrates commercially available and are used in the display. By this rationale, claims 4-15 are rejected.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. They are U.S. Patent Nos. 6,184,856 and 6,045,955 for the teachings of display devices having particles between two display substrates.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HENRY N. TRAN whose telephone number is 703-308-8410.

The examiner can normally be reached on Mon – Fri from 8:00AM – 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, RICHARD A. HJERPE, can be reached at 703-305-4709.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or fax to:

703-872-9306

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is 703-306-0377.

Henry N. Tran

HENRY N. TRAN
Examiner
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Hnt
March 7, 2004